

CLAIMS

What is claimed is:

1. A method of optimizing radio-access-network-packet-data-service-
2 node interface communications channel resources in a communications network
when a mobile station moves from a first infrastructure element to a second
4 infrastructure element associated with a packet data services node of the
communications network, the method comprising the step of:
6 transmitting from the second infrastructure element a message
including a number of dormant network connections associated with the mobile
8 station and a reduced list of identifiers associated with the dormant network
connections.
2. The method of claim 1, wherein said reduced list does not include
2 Service Request Identifiers.
3. A method of simplifying Packet Control Function network element
2 functionality when a mobile station moves from a first infrastructure element of
the packet data services network to a second infrastructure element of the packet
4 data services network, the method comprising the step of:
maintaining a reduced entry PPP connection table.
4. The method of claim 3, wherein said reduced entries do not include
2 Service Request Identifiers.
5. A method of optimizing the Air Interface traffic channel resources in
2 a communications network when the mobile station moves from a first
infrastructure element of the packet data services network to a second
4 infrastructure element of the packet data services network, the method comprising
the step of:
6 transmitting from the mobile station a message including a number
of dormant network connections associated with the mobile station and enhanced
8 information associated with the dormant network connections.

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7. The method of claim 5, wherein said enhanced information is used to
2 conserve traffic channel resources by reducing Point to Point Protocol session
negotiation.

8. The method of claim 5, wherein said enhanced information is used to
2 conserve traffic channel resources by reducing Mobile Internet Protocol
registration.

9. A mobile station configured to inform a packet data services network of dormant network connections associated with the mobile station when the mobile station moves from a first infrastructure element of the packet data services network to a second infrastructure element of the packet data services network, the mobile station comprising:

- an antenna;
- a processor coupled to the antenna; and
- a processor-readable medium accessible by the processor and containing a set of instructions executable by the processor to modulate and transmit from the mobile station a message including a number of dormant network connections associated with the mobile station and a reduced list of identifiers associated with the dormant network connections.

10. The mobile station of claim 9, wherein the dormant network
2 connections comprise point-to-point protocol connections.

11. The mobile station of claim 9, wherein the first and second
2 infrastructure elements comprise packet data service nodes.

12. The mobile station of claim 9, wherein the identifiers are not
2 comprised of service reference identifiers.

13. The mobile station of claim 9, wherein the message comprises an origination message including an indicator that the dormant network connections are dormant.

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means for transmitting from the mobile station a message including a number of dormant network connections associated with the mobile station and a reduced list of identifiers associated with the dormant network connections.

22. The mobile station of claim 21, wherein the dormant network connections comprise point-to-point protocol connections.

23. The mobile station of claim 21, wherein the first and second infrastructure elements comprise packet data service nodes.

24. The mobile station of claim 21, wherein the identifiers are not comprised of service reference identifiers.

25. The mobile station of claim 21, wherein the message comprises an origination message including an indicator that the dormant network connections are dormant.

26. The mobile station of claim 21, wherein the message comprises packet zone identification information.

27. A packet data services node configured to maintain Point to Point Protocol connection tables of dormant network connections associated with a mobile station when the mobile station moves from a first infrastructure element of a packet data services network to a second infrastructure element of the packet data services network, the packet data services node comprising:

a radio-access-network-PDSN channel interface;
a processor coupled to the radio-access-network-PDSN channel interface; and

a processor-readable medium accessible by the processor and containing a set of instructions executable by the processor to update the dormant network connection information associated with the mobile station.

28. The packet data services node of claim 27, wherein the dormant network connection information associated with the mobile station maintained does not include service reference identifiers.

29. The mobile station of claim 27, wherein the first and second
2 infrastructure elements comprise packet data service nodes.

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